

REMARKS

Claims 1-19 are pending in the application.

Claims 1-19 stand rejected.

Claims 5 and 16 have been amended.

Claims 1-4, 10-12 and 18-19 have been cancelled.

Claims 20-34 have been added.

Rejection of Claims under 35 U.S.C. § 102

Claims 1-4 and 9-19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Nathan, et al., U.S. Patent No. 6,295,146 (Nathan). Applicants respectfully traverse this rejection.

As an initial matter, Applicants respectfully submit that the reject is now moot with regard to claims 1-4, 10-12 and 18-19, as these claims have been cancelled.

As to claims 13 and 16, and so to claims 14-15 and 17, which depend therefrom, respectively, Applicants respectfully contend that Nathan fails to anticipate the claimed invention. Claim 13, in pertinent part, recites:

“...

computer-readable program code for causing a network element to receive a frame from a first ring network;

computer-readable program code for causing said network element to receive a frame from a second ring network;

computer-readable program code for causing said network element to detect a failure condition in said first ring network;

...” (emphasis supplied)

Thus, in the case of claim 13, the network element receives a frame from a first ring network, and also receives a frame from a second ring network. By contrast, Nathan's ring elements are only coupled to their respective rings, and so are only able to receive network traffic from their respective ring.

Moreover, the claimed network element also detects a failure condition in the first ring network. Nowhere in Nathan is it taught that Nathan's ring elements (or any other structure or element described therein) are capable of performing such a combination of tasks (receiving a frame from first and second ring networks, and detecting a failure condition in the first ring network). As noted, Nathan's ring elements are only coupled to their respective rings, and so are not capable of receiving traffic from two rings. Nathan's optical cross-connect switch (OCCS) controllers and OCCSs are not capable of detecting failure conditions. Thus, Nathan fails to teach a network element that receives a frame from a first ring network and a frame from a second ring network, and is also capable of detecting a failure condition in the first ring network.

In a similar fashion, claim 16, in pertinent part, recites:

"...

a first line interface of said network element coupled to a first ring network;
a second line interface of said network element coupled to a second ring network;
a cross-connect device of said network element, said cross-connect device including a
computer program for monitoring information from said first ring network and
said second ring network; and
wherein said computer program monitors said information for conditions indicative of a
failure in said first ring network or said second ring network." (emphasis
supplied)

As with claim 13, the recitation of a single network element in claim 16 that comprises a first line interface coupled to a first ring network, a second line interface coupled to a second ring network and a cross-connect device. In turn, the cross-connect device has a computer program for monitoring information from said first ring network and said second ring network that monitors the information for conditions indicative of a failure in the first ring network or the second ring network. As before, Nathan's ring elements simply do not include a cross-connect device (in fact, it is noted therein that the ring elements are add-drop multiplexers). Also as before, Nathan's OCCS controllers and OCCSs are not capable of detecting failure conditions. Thus, Nathan fails to teach a network element that comprises a first line interface coupled to a first ring network, a second line interface coupled to a second ring network and a cross-connect device, and that is also capable of monitoring information for conditions indicative of a failure in the first ring network or the second ring network.

Moreover, as is stated clearly throughout the instant patent application, the invention relates to the support of multiple rings within a single network element. Aside from other characteristics that distinguish Nathan from the claimed invention, and as noted above, Nathan's disclosure fails to provide an approach that allows the requisite functionality to be supported by a single network element. At best, Nathan must piece together various elements in an attempt to provide functionality even remotely comparable to that provided by the claimed invention in a single network element. In fact, this use of standalone elements is highlighted by Nathan's referring to these groupings as "locations" (i.e., the separate elements are located near one another in a physical sense). (*See, e.g., Fig. 5*) Applicants therefore respectfully submit that Nathan thus fails to anticipate the claimed invention both by its lack of a network element that possesses the claimed features, as well as Nathan's failure to teach an approach that employs (or even recognizes the value of the use of) a single network element.

Applicants therefore respectfully submit that Nathan fails to anticipate claims 13 and 16, and so that claims 13 and 16 are allowable for at least the foregoing reasons. Applicants further respectfully submit that claims 14-15 and 17, which depend from claims 13 and 16, respectively, are also allowable for at least the foregoing reasons

Rejection of Claims under 35 U.S.C. § 103

Claims 5, 6, 7 and 8 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Nathan, in view of Wu, U.S. Patent No. 5,442,623 (Wu). Applicants respectfully traverse this rejection.

As an initial matter, Applicants respectfully note that claim 5 has now been rewritten independently, and includes the limitations of claim 4 (now cancelled), from which it previously depended.

Applicants respectfully contend that Nathan and Wu fail to provide any motivation to combine their disclosures. Nathan is concerned with allowing two rings to use the same spare channel that exists between Nathan's OCCSs, such that the OCCSs are used to couple the ADMs which originate the alarm, to the spare channel. (Nathan, Abstract) By contrast, Wu is concerned with the use of a protection ring, in which a failure is bypassed via the conveyance of traffic between nodes on either side of the failure over a redundant ring (the protection ring). (Wu, Summary) These are two different solutions to the same problem: How to recover from failures in a ring network.

In the case of Nathan, rings share access to a spare channel, thereby providing each with protection against failure in a given span (in either ring), while reducing the number of spare optical links that must be maintained. In the case of Wu, an entire redundant ring (a protection

ring) is provided, in order to permit the bypassing of failures. However, Wu's protection ring does so at the expense of having a completely redundant ring.

Thus, the completely redundant approach taken by Wu is at odds with the shared approach taken by Nathan. Applicants therefore respectfully submit that one of skill in the art, at the time of invention, would not have been motivated to combine Nathan and Wu because their approaches to the problem of failures are contrary to one another.

However, even if the disclosures of Nathan and Wu are combined, their combination fails to make obvious the claimed invention because neither Nathan or Wu, nor their combination, fail to show, teach or suggest the provision of such functionality in a single network element. Claim 5 recites, in pertinent part:

"...

- (a) receiving frames from a plurality of ring networks at a single network element;
- (b) monitoring said frames at a single network element for a condition indicative of a failure in one of said plurality of ring networks;

..."

Thus, as noted earlier with regard to claims 13 and 16, the invention as claimed in claim 5 relates to the support of multiple rings within a single network element. Aside from other characteristics that distinguish the combination of Nathan and Wu from the claimed invention, such a combination fails to provide an approach that allows the requisite functionality to be supported by a single network element. At best, Nathan must piece together various elements in an attempt to provide functionality even remotely comparable to that provided by the claimed invention in a single network element, as noted earlier. The addition of Wu does nothing to address this infirmity.

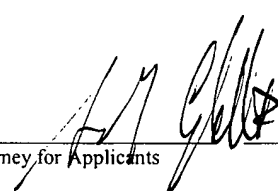
Applicants therefore respectfully submit that Nathan and Wu, in any allowable combination, fail to make obvious the claimed invention by virtue of a lack of motivation to combine their disclosures, as well as their failure to teach an approach that employs (or even recognizes the value of the use of) a single network element.

Applicants therefore respectfully submit that claim 5 is allowable for at least the foregoing reasons. Applicants also respectfully submit that claims 6-9, which depend from claim 5, are also allowable for at least the foregoing reasons. Applicants further respectfully submit that new claims 20-34, which are substantially similar to claims 5-9, are also allowable for at least the foregoing reasons.

CONCLUSION

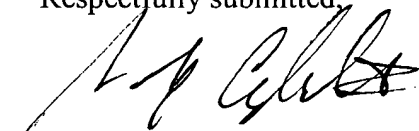
In view of the amendments and remarks set forth herein, the application is believed to be in condition for allowance and a notice to that effect is solicited. Nonetheless, should any issues remain that might be subject to resolution through a telephonic interview, the Examiner is invited to telephone the undersigned at 512-439-5084.

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on February 23, 2004.


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2/23/04
Date of Signature

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